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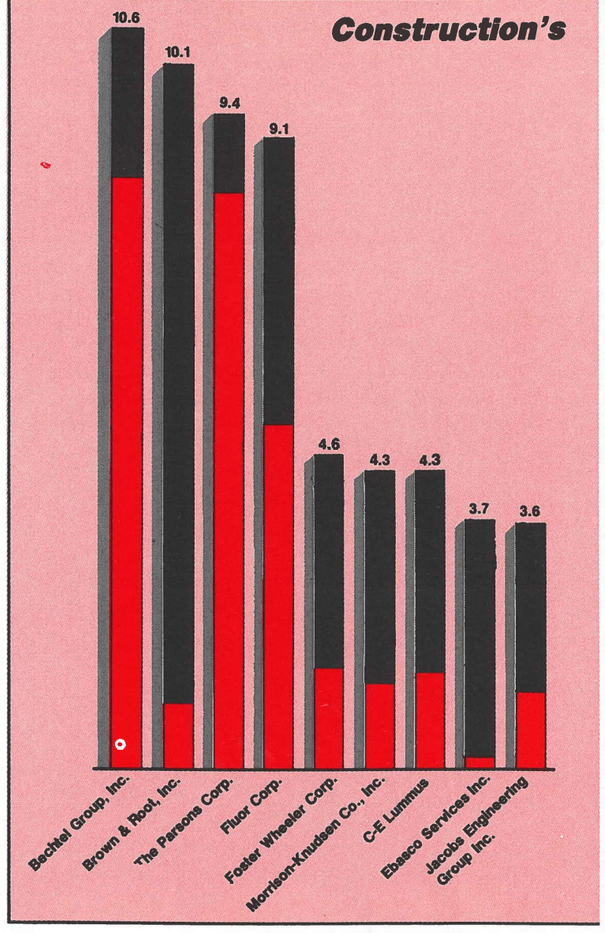
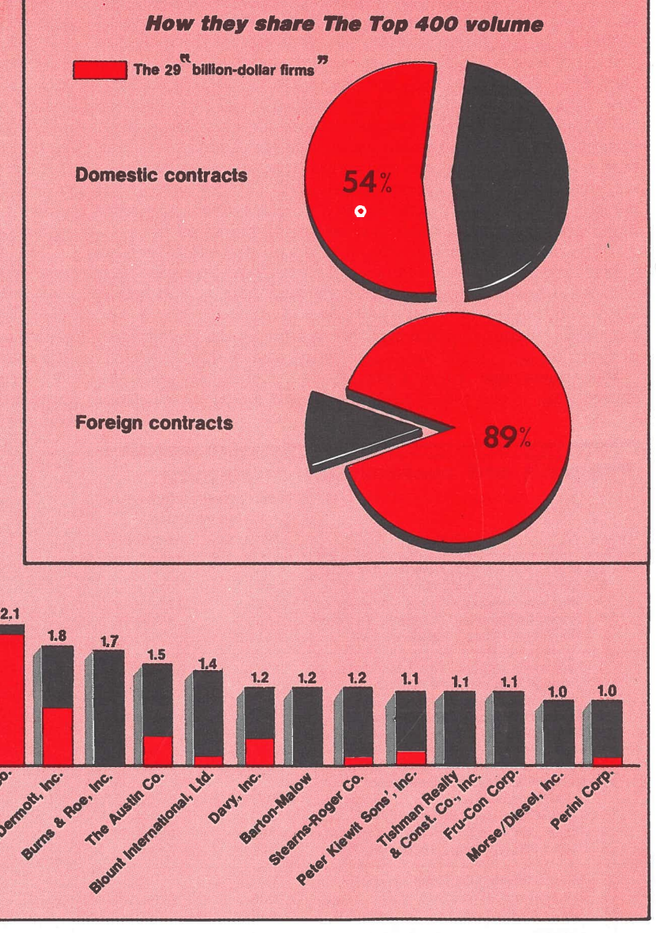
1981 TOP 400 CONSTRUCTION CONTRACTORS

The ENR 400

Energy markets and foreign work boost '80 awards

Bechtel wins tight race to the top





Strong energy and mineral markets at home and a surge in new work abroad underpinned the success of the nation's largest contractors in 1980. The nation's construction firms reported signing $113 billion in new contracts last year, bettering 1979's performance by 25%, according to ENR's 18th annual survey of industry leaders. The most impressive gains came overseas where 30% of all work originated. American firms found new markets opening up in Latin America and Asia which helped boost the Top 400's foreign volume by 54% to $34 billion (see p. 114).

A resurgence in refinery and mining work as well as continued demand for industrial process plants and office buildings helped boost domestic contracts for the group by 15% in 1980 to $79 billion. In addition, these firms took on program and construction management responsibility for $20 billion worth of new domestic projects. Overseas, U.S. companies signed contracts to manage $13 billion worth of projects.

The billion-dollar barrier was broken by 29 companies in 1980. Those construction giants, ranked by their combined total of general contracts, including their share of joint venture, subcontracts, design-construct and the erected value of program and construction management projects, account for over half of all the 400's domestic volume and nearly 90% of its foreign total. The billion-dollar firms also dominate the construction management market, claiming 68% of all domestic and 96% of all foreign management contracts reported to ENR.

Neck and neck. Four of the industry's super-contractors made a strong bid for the number one slot on ENR's top 400 list, taking on among themselves nearly $40 billion in new contracts. After the dust settled, Bechtel Group, Inc., San Francisco, had secured the top notch by tripling its 1980 new awards to $10.6 billion from $3.5 billion reported for 1979. New work awards, adjusted for inflation, were the highest in five years and helped push 1980's workload measured in man-hours up 9% over 1979. Another 15% increase in the man-hour workload is anticipated in 1981.

To continue its winning ways, Bechtel signaled a shift in strategy by restructuring the company's organization in 1980. The firms' operating divisions were placed under three principal companies: Bechtel Power Corp., Bechtel Petroleum, Inc. and Bechtel Civil & Minerals, Inc. "The restructuring of the company will allow Bechtel to handle even more business and do a better job," says Richard P. Godwin, president of the civil and minerals division. "With larger pools of manpower and stronger technical ability, we'll be able to pursue industries and not just individual clients," Godwin says.

Historically, Bechtel Power Corp. dominated the Bechtel workload, but the search for new sources of fuels and other raw materials last year brought increasing demand for services from the other two divisions, creating a more balanced mix of projects for the Bechtel organization, Godwin points out. In 1981, Bechtel expects strongest growth to be in the petroleum, petrochemical and synfuels markets while mining activity related to copper, aluminum and nickel is also expected to increase. In fact, a major reason behind Bechtel's restructuring was to position it for the anticipated work in the synfuels market and in the minerals field, claims Godwin, who also looks for more petrochemical work "because demand has caught up with supply for many chemical products such as ammonia and PVC."

Landing the jumbo-project. Placing a close second, Brown & Root, Inc.,(B&R), Houston, signed $10.1 billion in new contracts, just 4% behind Bechtel's contract pace. Although its foreign work dropped off slightly in 1980, B&R was able to increase domestic awards by 65%. "The landing of several jumbo-projects powered our 1980 gains," says Jack L. Duke, general sales manager. Leading B&R's project list were two western oil shale projects valued at more than $2.3 billion each and the rehabilitation of a large oil refinery for Chevron.

The strongest markets in 1980 for B&R, claims Duke, were refineries, synfuels, marine work and power generation, while the weakest areas were forest products and manufacturing

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plants. "The marine business is beginning to come back this year," says Duke. "Chemicals will also improve while refineries and synfuels maintain their significant position."

The Parsons Corp., Pasadena, Calif., went to the North Slope in Alaska and overseas to put together a string of contracts including project management work, that raised it from seventh place on ENR's 1979 ranking to the nation's third largest contractor in 1980. Foreign work accounted for 88% of Parsons' new contract awards last year, growing from $536 million in 1979 to $8.3 billion. The increase is based on a long list of large projects landed in 1980 which include an Abu Dhabi traffic and road improvement program and construction management project, the expansion of copper mines in Chile plus a series of projects on Alaska's North Slope for Sohio, Arco and other major energy companies, all in excess of $1 billion each.

"The strongest markets are in oil, gas and energy-related fields," says Stanley Goldhaber, senior vice president and director of business development at Parsons. Mining and metallurgy continue to be significant areas of improvement in the near term, claims Goldhaber, while public works and defense projects, he adds, could also turn around sooner than expected.

Fluor rides high. Fluor Corp., Irvine, Calif., also took the energy path to the top of ENR's contractor list as it tied down fourth place with $9.1 billion in new awards. Fluor maintains its massive involvement in overseas construction projects with $5 billion in new contracts, but posted its major gains on the home front as domestic contracts, as a percent of Fluor's total volume, rose from 20% in 1979 to 45% last year.

"The increase reflects higher activity across the board," says William McKay, president, Fluor Constructors International, who claims the company hired 4,000 new people in 1980 to handle the increased workload. Fluor's largest new project in 1980 was for the design and construction of a petrochemical plant in Saudi Arabia. "We're also doing a lot of heavy oil upgrading work for Texaco throughout the country," McKay says. This same type of work, he notes, has brought a $400-million project for Shell in northern California and a $300-million job for Phillips Petroleum in Texas.

"The strongest market for Fluor in the U.S. and Europe," says McKay, "is getting to the bottom of crude oil barrels, chewing up the residuals and converting them to transport fuel. There are many of these projects and more in sight as oil prices continue to rise." The equipping of refineries to handle heavier and sour crude with its greater sulfur content, McKay claims, is also keeping Fluor busy. "We have a contract in Canada to extract heavy oil for processing which will be the biggest job the company has even had once it's released," says McKay.

While synfuels projects hold potential, McKay believes, Fluor found it a weak market last year, and planned administration cutbacks in federal aid for such projects could delay new starts. "The market fell short," he says, "although we have two contracts to build shale oil plants which have not been released yet. . . . More will be built but this market will take longer to mature than expected."

Unlike other top industrial contractors, a souring synfuels market has not stopped Fluor from setting its sights on the mining and mineral extraction markets. Earlier this month, Fluor signed a preliminary merger agreement with St. Joe Minerals Corp., New York City, a major producer of lead and zinc (ENR 4/9 p. 25).

The big movers. One of the best performers of 1980 was Foster Wheeler Corp., Livingston, N.J., streaking to the No. 5 spot from its 16th rank in 1979. The increase in 1980's business was mostly cornered in North American contracts as Foster Wheeler also took advantage of the investment surge to modernize oil refineries to handle more crude.

Synfuels is another major area of work for Foster Wheeler, with one of its largest projects a shale oil plant for the Exxon and Tosco oil producers. Foster Wheeler also will design, engineer and handle procurement for a $1-billion shale oil oil plant, near Parachute Creek, Colo.

Close behind Foster Wheeler is Morrison-Knudsen Co., Inc., Boise, Idaho, with $4.3 billion in new general contracting and CM contracts. M-K also shared the spotlight as one of the big movers, climbing 12 places above its 1979 ranking.

Increasing its volume by 30% in 1980, mainly on the strength of its foreign contracts, C-E Lummus secured seventh place. Lummus scored some of its largest 1980 contracts for oil and gas recovery jobs in Saudi Arabia and in petrochemical work in Saudi Arabia and Europe. The company's market focus, however, is apparently shifting to Latin America where the firm has just announced a multi-billion dollar contract to manage construction of a project over the next six years that will convert Venezuela's tar sands into petro-products.

The top 10 construction firms are rounded out by Ebasco Services, Inc., New York City, at $3.7 billion; Jacobs Engineering Group Inc., Pasadena, Calif., at $3.6 billion; and The M.W. Kellogg Co., Houston, at $3 billion. On the home front these firms share an even more significant portion of the construction pie. Based on domestic contracts, Ebasco and Jacobs are the third and fourth largest contractors. Brown & Root and Fluor are the two largest domestic contractors.

Jacobs Engineering, in particular, made a sharp move toward top honors, climbing 18 notches above its previous rank. "Business went up dramatically," says Dale J. Myers, president, because of the recovery of serveral specialty areas that we are involved in, such as fertilizers, which had been down for three years and began to boom in 1980. "Phosphates and potash activity has been growing both domestically and internationally," Myers says, adding that the company is well positioned in the minerals market, which he expects to grow for the remainder of the decade.

Raymond International, Inc., Houston, also keyed in on the minerals market as it bounded from 38th place in 1979 to rank No. 11 last year. Raymond benefited from a worldwide boom in the aluminum industry to capitalize on engineering and construction management contracts. "Aluminum work has taken off like a rocket," says F.R. Mason, a Raymond senior vice president. "For years the big aluminum companies reviewed future capacity requirements and then the projects seem to hit all at once." Raymond's largest single award was for a $1.1-billion alumina refinery plant in western Australia. Another strong boost came from the offshore production platform construction market. Mason says "1980 was the year this market turned around and Raymond is gearing up to exploit the offshore market as much as possible."

CM big business. The nation's leading program and construction manager in 1980 was Brown & Root, Inc., with $4.3 billion in management contracts. "The greatest demand for construction management work is in the areas of synfuels, refiner and chemical work and, to some degree, forest products," says B&R's Duke. B&R sometimes takes on jobs where it does engineering and construction management, or where it does the construction as well as construction management, but it seldom takes on jobs involving management only, claims Duke.

Second on the CM list is Ebasco with $3.4 billion in program management work. These are primary projects where Ebasco has limited financial liability but does not use its own work force on the site. Morrison-Knudsen, Jacobs Engineering and Parsons filled in the remaining top manager slots, all taking over $2 billion worth of projects under their supervision.

One of the largest construction managers working on a limited liability basis was Burns and Roe, Inc., Oradell, N.J., which designed, engineered and managed the construction of $1.7 billion worth of work. Another large manager working primarily on a fee basis was Barton-Malow Co., Detroit, which

Program and construction managers

RANK	FIRM	MANAGEMENT CONTRACTS IN $ MILLIONS TOTAL	FOREIGN
1	**Brown & Root, Inc., Houston, Tex.**	4,285.0	154.0
2	**Ebasco Services Inc., New York, N.Y.**	3,401.2	142.4
3	**Morrison-Knudsen Co., Inc., Boise, Idaho**	3,239.5	2,286.6
4	**Jacobs Engineering Group Inc., Pasadena**	2,768.9	1,170.0
5	**The Parsons Corp., Pasadena, Calif.**	2,411.0	2,370.5
6	**Bechtel Group, Inc., San Francisco**	2,109.0	1,892.0
7	**Burns & Roe, Inc., Oradell, N.J.**	1,677.6	22.4
8	**Dravo Corp., Pittsburgh, Pa.**	1,664.2	711.9
9	**Barton-Malow Co., Detroit, Mich.**	1,108.0	0
10	**Tishman Realty & Const. Co., Inc., N.Y.**	1,086.5	0
11	**C.F. Braun & Co., Alhambra, Calif.**	850.0	850.0
12	**United Engineers & Constructors, Inc., Philadelphia, Pa.**	821.0	0
13	**Morse/Diesel, Inc., New York, N.Y.**	723.5	0
14	**Guy F. Atkinson Co., S. San Francisco**	707.8	637.5
15	**Foster Wheeler Corp., Livingston, N.J.**	700.0	700.0
16	**Gilbane Building Co., Providence, R.I.**	699.7	0
17	**C-E Lummus, Bloomfield, N.J.**	600.0	370.0
18	**McCarthy Brothers Co., St. Louis, Mo.**	553.0	25.0
19	**Catalytic Inc., Philadelphia, Pa.**	545.0	190.0
20	**Raymond International, Inc., Houston**	490.0	1.0
21	**Turner Construction Co., New York**	431.1	294.7
22	**Fluor Corp., Irvine, Calif.**	421.0	n.a.
23	**Day & Zimmermann, Inc., Philadelphia**	320.0	120.0
24	**J.S. Alberici Const. Co., Inc., St. Louis**	250.0	0
25	**Huber, Hunt & Nichols, Inc., Indianapolis**	225.0	0
26	**Mellon-Stuart Co., Pittsburgh, Pa.**	223.0	0
27	**Davy Inc., Cleveland, Ohio**	217.6	0.9
28	**Lehrer/McGovern, Inc., New York, N.Y.**	205.0	0
29	**Ford, Bacon & Davis, Inc., Monroe, La.**	201.1	3.3
30	**The Austin Co., Cleveland, Ohio**	200.0	50.0
31	**Kitchell Contractors, Inc., Phoenix, Ariz.**	194.6	0
32	**George A. Fuller Co., New York, N.Y.**	174.0	0
33	**L.F. Driscoll Co., Bala Cynwyd, Pa.**	143.2	0
34	**Del E. Webb Corp., Phoenix, Ariz.**	139.0	0
35	**Mills & Jones Const. Co., St. Petersburg.**	127.1	0

Based on the erected value of program, project and construction management contracts.

RANK	FIRM	1980 CONTRACTS ($ MILLIONS) TOTAL	FOREIGN	CONSTRUCTION SPECIALTY MFG.	POWER	PROCESS	HWY.	MARINE	AIRPORT	BLDG.	CM	DESIGN	ENR SUBSCRIBERS
1	**Bechtel Group, Inc., San Francisco, Calif.**	10,615.0	8,493.0	✓	✓	✓	✓	✓	✓	✓	✓	✓	1,419
2	**Brown & Root, Inc., Houston, Tex.**	10,144.7	970.4	✓	✓	✓	✓	✓	✓	✓	✓	✓	487
3	**The Parsons Corp., Pasadena, Calif. (a)**	9,423.0	8,283.0	✓	✓	✓	✓	✓	✓	..	✓	✓	301
4	**Fluor Corp., Irvine, Calif. (b)**	9,133.7	4,978.7	✓	✓	✓	..	✓	✓	✓	✓	✓	685
5	**Foster Wheeler Corp., Livingston, N.J.**	4,600.0	2,800.0	✓	✓	✓	..	..	..	..	✓	✓	87
6	**Morrison-Knudsen Co., Inc., Boise, Idaho (c)**	4,348.7	2,418.3	✓	✓	✓	✓	✓	✓	✓	✓	✓	430
7	**C-E Lummus, Bloomfield, N.J.**	4,300.0	2,700.0	✓	..	✓	..	..	..	✓	✓	✓	50
8	**Ebasco Services Inc., New York, N.Y.**	3,711.3	215.4	..	✓	✓	..	✓	✓	✓	✓	✓	320
9	**Jacobs Engineering Group Inc., Pasadena**	3,634.9	1,170.0	✓	..	✓	..	..	..	✓	✓	✓	50
10	**The M.W. Kellogg Co., Houston, Tex. (d)**	3,000.0	1,856.0	..	..	✓	..	..	..	..	✓	✓	112
11	**Raymond International Inc., Houston (e)**	2,718.9	1,395.4	✓	✓	✓	✓	✓	✓	✓	✓	✓	271
12	**The Rust Engineering Co., Birmingham, Ala.**	2,567.0	600.0	✓	✓	✓	..	..	..	✓	✓	✓	79
13	**Dravo Corp., Pittsburgh, Pa. (f)**	2,393.5	891.3	✓	✓	✓	..	✓	..	..	✓	✓	276
14	**Turner Construction Co., New York, N.Y.**	2,237.3	294.7	✓	✓	..	..	..	..	✓	✓	..	361
15	**J.A. Jones Construction Co., Charlotte, N.C.**	2,137.9	41.0	✓	✓	✓	✓	..	✓	✓	✓	..	229
16	**Guy F. Atkinson Co., S. San Francisco (g)**	2,137.3	1,224.2	✓	✓	✓	✓	✓	✓	✓	✓	..	166
17	**C.F. Braun & Co., Alhambra, Calif. (h)**	2,130.0	1,980.0	✓	✓	✓	..	..	..	..	✓	✓	67
18	**J. Ray McDermott & Co., Inc., New Orleans (i)**	1,806.0	875.0	..	✓	✓	..	✓	..	✓	..	✓	101
19	**Burns and Roe, Inc., Oradell, N.J.**	1,677.6	22.4	..	✓	✓	..	..	..	..	✓	✓	135
20	**The Austin Co., Cleveland, Ohio**	1,482.0	374.6	✓	✓	✓	..	..	✓	✓	✓	✓	120
21	**Blount International, Ltd., Montgomery, Ala.**	1,366.0	44.0	✓	✓	✓	..	..	..	✓	✓	✓	54
22	**Davy Inc., Cleveland, Ohio (j)**	1,164.1	386.2	✓	✓	✓	..	✓	..	✓	✓	✓	158
23	**Barton-Malow, Detroit, Mich.**	1,154.3	0	✓	..	✓	..	..	..	✓	✓	..	24
24	**Stearns-Roger Corp., Denver, Colo.**	1,151.4	141.6	✓	✓	✓	..	..	..	✓	✓	✓	145
25	**Peter Kiewit Sons', Inc., Omaha, Neb.**	1,113.9	152.8	✓	✓	✓	✓	✓	✓	✓	..	..	240

Figures include prime construction contracts, shares of joint ventures, subcontracts, design-construct, program and construction management. Parent company's total includes subsidiaries. Design-construct contracts included at erected value of plant including installed equipment. Program and construction management contracts included at erected value of project managed.